



# A COMPARATIVE STUDY OF MANPOWER QUALITY AND ITS AVAILABILITY IN THE FIELD OF IT IN KERALA AND KARNATAKA

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## ABSTRACT

Information and Communication Technology (ICT) industry began to emerge during the Post- World War II period. This industry can be broadly divided into hardware and ICT service activities. Initially, its development was concentrated in a limited number of distinct geographical areas. Silicon Valley in the United States is identified as one of the earliest examples for ICT activity concentration. In recent years the industry has started spreading to other areas like South – East Asia. Its growth in Indian sub-continent is also notable. Centres such as Mumbai and Bengaluru have seen explosive growth in the ICT service sector and have grown into global centres, creating durable employment opportunities and economic growth.

## 1. INTRODUCTION

Over the last few years, the growth and development of IT industry has been given utmost importance among industrialists, policy makers and support agencies. Both Kerala and Karnataka began developing the IT sector more or less at the same time. The features of IT industry like requiring less space for setting up and environment friendliness along with highly qualified professionals of Kerala provided a fertile ground for its growth in the state. The development of IT industry highly depends on its manpower quality and its availability. But always there is dissatisfaction on the part of companies with regard to the existing quality and availability of trained and expert manpower in the field of IT. Here, twelve variables are studied which may act as hindrances to the existing manpower quality and its availability and opinions of respondents regarding this from Kerala and Karnataka are gathered and compared. Hence, a comparative study is made with regard to manpower quality and its availability in the field of IT in Kerala and Karnataka.

## 2. OBJECTIVE OF THE STUDY

To make a comparative study about the manpower quality and its availability for the development of IT industry in Kerala and Karnataka.

## 3. HYPOTHESIS OF THE STUDY

H0: There is no significant difference in Manpower quality and its availability in the field of IT industry between Kerala and Karnataka.

## 4. METHODOLOGY OF THE STUDY

For the purpose of the study, the companies located in Thiruvananthapuram and Kochi are taken in Kerala and the companies located in Bengaluru are taken in Karnataka. The sample size is 445 respondents from Kerala and 750 respondents from Karnataka.

## 5. Variables used for the Study

- MPA1: Updation of academic output of engineering colleges
- MPA2: Capacity of freshers in the field of IT to cope with the changes in market
- MPA3: Communication hindrance with peers/clients
- MPA4: Associating industry experts for designing of curriculum
- MPA5: Performance of private engineering colleges
- MPA6: Training by IT organisations
- MPA7: Need for attending training programmes given by ICT Academy
- MPA8: Setting up of foreign language training centres
- MPA9: Shortage of experienced personnel for key positions
- MPA10: Retention and motivation of experts
- MPA11: Demand and supply gap
- MPA12: Lack of career commitment and mismatch of expectations

## 6. ANALYSIS AND INTERPRETATION

Here, opinions are collected for each of the twelve variables using five-point Likert scale. The responses are scored as 1 for 'Strongly disagree', 2 for 'Disagree', 3 for 'Neutral', 4 for 'Agree' and 5 for 'Strongly agree'. A model of fit indices for CFA on Manpower quality and its availability in the field of IT in Kerala and Karnataka is calculated and the result is given in the table 1 below.

Factor	State	$\chi^2$	DF	P	Normed $\chi^2$	GFI	AGFI	NFI	TLI	CFI	RMR	RMSEA
Manpower quality and its Availability in the field of IT in the State	Kerala	22.635	24	.541	.943	.991	.972	.944	1.001	1.000	.014	.000
	Karnataka	31.287	21	.069	1.490	.988	.957	.992	.992	.997	.020	.033
Recommended Value		-	-	-	<5.00	>0.90	>0.90	>0.90	>0.90	>0.90	<1.00	<1.00

Source: Survey Data

**Table1: Model Fit Indices for CFA- Manpower quality and its availability in the field of IT in the State**

All the calculated values in the table 1 for Normed  $\chi^2$ , GFI, AGFI, NFI, TLI, CFI, RMR and RMSEA are favourable in relation to their respective standard and therefore it is reported that the CFA is perfectly fit for the study.

Then, regression coefficients on each of the twelve variables for both Kerala and Karnataka are calculated and convergent validity test is conducted.

Path	State	Regression Coefficient (B)	Critical Ratio (CR)	P	Variance explained (%)	Decision	Conclusion
MPA1→Manpower quality and its availability	Kerala	0.778	21.871	<0.001	60.5	Accepted	Significant
	Karnataka	0.738	25.857	<0.001	54.4	Accepted	Significant
MPA2→Manpower quality and its availability	Kerala	0.759	20.895	<0.001	57.6	Accepted	Significant
	Karnataka	0.751	26.655	<0.001	56.4	Accepted	Significant
MPA3→Manpower quality and its availability	Kerala	0.795	22.808	<0.001	63.1	Accepted	Significant
	Karnataka	0.787	29.067	<0.001	61.9	Accepted	Significant
MPA4→Manpower quality and its availability	Kerala	0.506	11.717	<0.001	25.6	Accepted	Significant
	Karnataka	0.836	33.009	<0.001	70.0	Accepted	Significant
MPA5→Manpower quality and its availability	Kerala	0.804	23.333	<0.001	64.6	Accepted	Significant
	Karnataka	0.804	30.333	<0.001	64.6	Accepted	Significant
MPA6→Manpower quality and its availability	Kerala	0.371	8.190	<0.001	13.8	Rejected	Not Significant
	Karnataka	0.671	22.208	<0.001	45.0	Accepted	Significant
MPA7→Manpower quality and its availability	Kerala	0.753	20.600	<0.001	56.8	Accepted	Significant
	Karnataka	0.731	25.442	<0.001	53.4	Accepted	Significant
MPA8→Manpower quality and its availability	Kerala	0.849	26.334	<0.001	72.2	Accepted	Significant
	Karnataka	0.716	24.581	<0.001	51.2	Accepted	Significant
MPA9→Manpower quality and its availability	Kerala	0.759	20.895	<0.001	57.6	Accepted	Significant
	Karnataka	0.711	24.303	<0.001	50.5	Accepted	Significant
MPA10→Manpower quality and its availability	Kerala	0.728	19.436	<0.001	53.1	Accepted	Significant
	Karnataka	0.828	32.299	<0.001	68.6	Accepted	Significant
MPA11→Manpower quality and its availability	Kerala	0.774	21.659	<0.001	59.8	Accepted	Significant
	Karnataka	0.835	32.919	<0.001	69.8	Accepted	Significant
MPA12→Manpower quality and its availability	Kerala	0.819	24.257	<0.001	67.0	Accepted	Significant
	Karnataka	0.506	15.233	<0.001	25.6	Accepted	Significant

Source: Survey Data

**Table 2: Regression Coefficients-Manpower quality and its availability in the field of IT in Kerala and Karnataka**

The results given in the table 2 shows that all the variables except variable MPA6 have significant effect on Manpower quality and its availability in the field of IT in Kerala. The regression coefficient for MPA6 is 0.371 which is less than the recommended value of 0.4 (but significant at 1% level). Hence, it is concluded

that MPA6 i.e., IT organisations conduct training for ICT skill development does not have any significant effect on Manpower quality and its availability in the field of IT in Kerala and hence it is rejected. Thus, only 11 statements are remaining after conducting convergent validity test in Kerala. In Karnataka, all the variables have significant effect on Manpower quality and its availability in the field of IT as all have regression coefficients more than the recommended value of 0.4.

In Kerala, out of the 11 variables, the variable which shows maximum regression coefficient is MPA8 i.e., there is the need for setting up foreign language training centres for teaching Japanese, Chinese, French and Spanish languages which is 0.849. In Karnataka, the variable which shows maximum regression coefficient is MPA4 i.e., existing quality of academic output will improve only if industry experts are involved in terms of designing of the curriculum, guest lectures, soft skills training, on the job training etc. which is 0.836.

#### Comparison of Manpower quality and its availability in the field of IT industry between Kerala and Karnataka

Here, first a comparison of all the twelve variables coming under the factor 'Manpower quality and its availability in the field of IT industry' is made between Kerala and Karnataka. An independent sample z test is carried out and the result is given in table 3 below.

Variables	State	N	Mean	Standard Deviation	z	p value	Decision	Conclusion
MPA1	Kerala	445	4.09	0.84	5.320	<0.001	Rejected	Significant
	Karnataka	750	3.78	1.05				
MPA2	Kerala	445	2.54	1.10	-8.423	<0.001	Rejected	Significant
	Karnataka	750	3.13	1.20				
MPA3	Kerala	445	3.09	1.14	2.655	0.008	Rejected	Significant
	Karnataka	750	2.91	1.13				
MPA4	Kerala	445	4.17	0.89	2.343	0.019	Rejected	Significant
	Karnataka	750	4.04	0.94				
MPA5	Kerala	445	3.46	1.20	1.637	0.102	Accepted	Not Significant
	Karnataka	750	3.34	1.21				
MPA6	Kerala	445	3.62	0.86	6.871	<0.001	Rejected	Significant
	Karnataka	750	3.21	1.07				
MPA7	Kerala	445	3.34	0.92	3.961	<0.001	Rejected	Significant
	Karnataka	750	3.13	0.84				
MPA8	Kerala	445	3.37	1.23	1.765	0.078	Accepted	Not Significant
	Karnataka	750	3.25	1.08				
MPA9	Kerala	445	2.91	1.03	4.396	<0.001	Rejected	Significant
	Karnataka	750	2.65	1.00				
MPA10	Kerala	445	3.66	1.08	-4.151	<0.001	Rejected	Significant
	Karnataka	750	3.91	0.96				
MPA11	Kerala	445	3.32	0.86	-5.444	<0.001	Rejected	Significant
	Karnataka	750	3.64	1.06				
MPA12	Kerala	445	3.63	0.94	1.128	0.260	Accepted	Not Significant
	Karnataka	750	3.57	0.91				

Source: Survey Data

**Table 3: Mean, Standard deviation and z value for Manpower quality and its availability for Kerala and Karnataka**

From the table it is observed that except for the variables MPA2, MPA10 and MPA11, the mean score of all other variables considered is more in Kerala than Karnataka. The z test shows that there is no significant difference between Kerala and Karnataka for the variables MPA5, MPA8 and MPA12. All other variables have significant difference in mean score between Kerala and Karnataka.

#### Testing of Hypothesis

Next, an overall comparison of the factor 'Manpower quality and its availability in the field of IT industry' is made between Kerala and Karnataka to find out whether there is any significant difference between the two states. An independent sample z test is carried out and the result is given in table 4 below.

Variables	State	N	Mean	Standard Deviation	z	p value	Decision	Conclusion
Manpower quality and its availability	Kerala	445	3.42	0.52	1.261	0.208	Accepted	Not Significant
	Karnataka	750	3.38	0.46				

Source: Survey Data

**Table 4: Mean, Standard deviation and z value for Kerala and Karnataka**

From the above table, it is found that for the factor Manpower quality and its availability the p value is greater than 0.05 and therefore not significant. Hence, it is understood that there is no significant difference in Manpower quality and its availability in the field of IT industry between Kerala and Karnataka. Hence, we accept null hypothesis.

#### 7. CONCLUSION

In order to make an overall comparison between two states to find out which one is better with regard to the factor Manpower quality and its availability, Z test was conducted and the result shows that there is no significant difference in Manpower quality and its availability between Kerala and Karnataka as p value is greater than 0.05 and therefore not significant. Thus, the study concludes that Kerala matches Karnataka in respect of Manpower quality and its availability for IT development.

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